



Natoma Technologies Testimony to Little Hoover Commission

May 22, 2008

My name is Marty McGartland and I am the founder and CEO of Natoma Technologies. I have 28 years of experience, almost all in the IT consulting industry, and have worked with state and local government, Federal government, and private sector clients. I have lectured at universities, published papers, and chaired conference sessions in the IT industry.

On behalf of Natoma Technologies and the California IT vendor community, I wish to thank the Commission for the opportunity to participate in your review of California's administration of information technology policies and practices. Consistent with your invitation, the following remarks summarize Natoma Technologies' experience in the public and private sectors including Cal-SOLQ, congratulate the State on some of its recent successes, identify specific areas of opportunity for improvement, and make recommendations to advance the IT operations in the State of California.

Natoma Technologies

Natoma Technologies, Inc. is a technical consulting firm specializing in custom software development and systems integration. Natoma focuses on information-driven, end-user systems. Our strength is helping clients use information and computing technologies to improve work processes, reduce costs, increase levels of service, and/or work more intelligently. We execute all projects with a dedication to on-time, on-budget performance with quality products tailored to our client's unique needs.

For the past 10 years, Natoma has been providing IT services to the State of California and other clients. Over the years, Natoma has successfully completed numerous projects for California, including:

- The first statewide voter registration system
- The election night reporting system
- Several licensing and enforcement enterprise applications
- The Governor's eBudget system
- Several business intelligence (BI) applications
- The California State Online Query (Cal-SOLQ) system

Cal-SOLQ

The Cal-SOLQ/MMA system developed by Natoma Technologies for the California Department of Health Care Services (DHCS) is a national award winning Service Oriented Architecture (SOA) solution using Web Services/SOAP messaging. It is the first enterprise SOA solution in production in California State Government aligned with the California Enterprise Architecture Program (CEAP) vision. The Cal-SOLQ application provides *real time, immediate* access to the Federal Social Security Administration database and enables authorized DHCS users to obtain SSN, Tile II, and Title XVI information. The Cal-MMA (Medicare Modernization Act) query application part of the system provides authorized DHCS users with a consolidated view of MediCal participant's complete *insurance eligibility* and *medication history*.

Cal-SOLQ utilizes the California Enterprise Architecture Program (CEAP) vision to capitalize on shared services and repeatable solutions. It is a good example of legacy system modernization where the State was able to leverage its investment in existing systems while improving services to its citizens. Through the use of Cal-SOLQ, eligibility verification in the program improved from 6 weeks to 6 seconds.

The Cal-SOLQ application received rave reviews from DHCS business users and is providing significant improvements in the validation of MediCal applicant's information and determination of MediCal and Medicare eligibility. The Cal-SOLQ solution has received special recognition by the California State CIO's Office and national and State awards. A more detailed description of the Cal-SOLQ project is attached to this testimony.

Recent Successes

Recently, there have been several significant and tangible improvements in the California IT industry designed to help ensure successful delivery as well as best value for the State's information technology budgets. These successes have occurred in the form of new legislation, policies, standards, governance and vision and include the following:

- SB834 establishing the Office of the Chief Information Officer
- Formation of CEAP and focus on enterprise applications and shared services
- SB954 authorizing solutions-based procurements
- AB617 modifying performance bond requirements
- New leadership at DGS
- Better use of contract vehicles such as the IT MSA and strategic sourcing

These are discussed in the following paragraphs.

The establishment of the Office of the Chief Information Officer (SB834) was an important step to improve the State's information technology vision, standards, and direction. As recommended by the Commission's Report, "Historic Opportunities:

Transforming California State Government” (Report 176, December 2004), the cabinet-level CIO, is the required management structure necessary to implement and enforce enterprise standards for information technology.

Under the direction of the State CIO, the State is moving forward with the adoption of the California Enterprise Architecture Program (CEAP) to establish policies and frameworks to better leverage technology across common business programs and processes across the State. The vision of CEAP, along with the governance of the CIO, has established a foundation for enterprise information technology success.

Vendors currently are bidding on a Proof of Concept (POC) for the Department of Technology Services (DTS). This POC is intended to demonstrate the value of shared services across the enterprise as directed by CEAP. Shared services can easily be defined by common business practices used by multiple departments and/or programs requiring similar functionality, and can be implemented once and shared multiple times. This POC will establish within DTS an Enterprise Service Bus that uses a registry of common business functions shared by departments and agencies that have similar business requirements

By using this approach, private industry has been able to recognize the following benefits:

- Reduced costs by eliminating the need for duplicative efforts
- Reduced risk as common technology and business functions are shared
- Stronger enterprise governance of technology, breaking down silos

For many years, the onerous contract terms, lengthy request for proposal process, and inability to communicate effectively with clients during the acquisition process have hindered competition and resulted in a single bidder on many State IT procurements. Fortunately, there have been some significant improvements within the governance of the State’s information technology in the way the State procures information technology services.

The solutions-based procurement approach (SB954) provides vendors and the State an opportunity to validate and discuss specific business and technical requirements in a collaborative manner. Procurements are no longer restricted to the written approach that doesn’t allow for dialogue and often results in misunderstandings and over-specified requirements. Solutions-based procurements focus on the functional vs. technical approach and permit confidential discussion between the vendors and clients. The solutions-based approach should reduce costs and result in systems that more fully meet business needs. This approach increases competition as bidders have an opportunity to discuss their solution, approach, concerns, and terms in a business partner fashion that leads to more understanding and collaboration.

Another area of improvement is the passage of AB617 which modifies the requirements for the use of performance bonds. All vendors, large and small, are limited by a corporate capacity for bonding. AB617 maintains the bonding requirement when appropriate while allowing for other protection mechanisms. By eliminating the need for bonds on some procurements, vendors will have added incentive to bid thus encouraging competition.

Under the leadership of Will Bush, the Department of General Services (DGS) has encouraged the use of standard procurement vehicles when appropriate. The California Strategic Sourcing Initiative provides an opportunity for the State to leverage its enormous buying power. Departments are encouraged to use strategic sourcing whenever possible to obtain the best value on purchases and enforce standardization. As a systems integrator, Natoma welcomes standardization on computer hardware and third party software. This approach helps leverage technology, avoid unique configurations, and removes standard hardware from the project procurement allowing for more timely purchases.

Years ago, DGS lowered the dollar limit for procurements that use the IT Master Service Agreement (MSA) contract vehicle, effectively eliminating that option for acquisitions. Several months ago, DGS raised this limit to a more reasonable level allowing agencies to once again use this pre-approved contract for their IT needs. Use of existing, competitively-bid, contract vehicles such as the MSA, significantly reduces the procurement time and the overall procurement cost saving both the State and vendors time and money.

The new policies have been proven successful in the form of national recognition and awards. For example, recently Government Technology Magazine recognized Governor Arnold Schwarzenegger, Secretary of the State and Consumer Affairs Agency Rosario Marin, and Christy Quinlan, former DHCS CIO and now Chief Deputy Director, Office of the CIO for their advancements and leadership in information technology at the State. These successes, along with successful IT project delivery have lead to national recognition throughout the industry for the State, employees of the State, and projects implemented jointly by vendors and the State, including:

- “Best Fit Integrator Award, Reinvention of Health and Human Services” for the Cal-SOLQ/MMA system by the Center for Digital Government, 2007
- Applied Creativity in Access to Public Services, Center for Digital Government, 2007
- “Excellence in Government Transformation Using Technology” to the State of California for the Cal-SOLQ system, by The National Electronic Commerce Coordinating Council (eC3), 2007
- CDI Enterprise Information Portal, *National Association of Insurance Commissioners*, 2006
- Governor’s eBudget System, *National Association of State Budget Officers*, 2005

In addition, dozens of projects have been recognized regionally by the Government Technology Conference and associated conferences.

Areas for Improvement

Although the Department of General Services has implemented the policies and legislation into their processes, departments and agencies within the State have been very slow to adopt the changes. Most current RFPs contain the same contract terms, high performance bonds, and none of the benefits of a solutions-based procurement. Given the size of the California State IT industry, it is expected that these changes will require time to be fully implemented.

Although much of the policy changes have focused on large information technology projects, the same issues concerning terms and conditions, performance bonds, onerous payment terms, long RFP processes, and single bid procurements affect smaller projects. Though small projects, under \$5 million, account for the majority of the State's IT projects, little attention is being given to improve this facet of the State's IT landscape. This reality has a significant impact on the ability of California Certified Small Businesses to grow because of the corporate bonding capacity and difficult payment terms. While solutions-based procurements are more labor intensive to execute, they result in a lower cost and better overall solution. We believe they should be applied to small projects as well as larger projects.

There has been a tendency in the State to bundle items into a single procurement. Because of the long procurement time and the enormous amount of paper, departments often bundle multiple projects or other items into the procurement. This increases the overall bond for the procurement and often eliminates smaller businesses from the competition. We have seen procurements that included laptops, communications services, hardware, and third party software as well as the system integrator project cost. With these additional costs, bonding requirements, and payments partially withheld until project completion, small businesses cannot afford to compete on these efforts, depriving the State of competition and increasing project costs.

The length of time from the project conception until implementation must be reduced. California citizens expect their government to provide essential services and this includes information technology. Currently, it often requires four or more years to procure and implement a system. The benefits in cost savings, revenue generation, and citizen services are severely delayed by a cumbersome, time-consuming process.

The impact of this labor intensive process is staggering. Often Feasibility Study Reports (FSRs) are developed several years before the actual project. The technology and budgets presented in the FSR are completely obsolete before starting the actual project. This results in canceled procurements, poor solutions, and antiquated technology. The Department of the Navy set a 90 day goal for the time from the project conception until the project start date. Surely, we can do better than several years.

The current process forces departments to design their solution many years in advance of implementation and artificially freeze their solution for the life of the procurement. Despite knowing that work may not begin for years, they are forced to excessively detail their solution early in the process during the FSR development. During the Request for Proposal (RFP) development, they continue to over-specify the solution resulting in large, detailed RFPs and proposals.

I would like to contrast two recent procurements where Natoma participated. Each project was budgeted at \$4 million.

- The first project was a solutions-based procurement with open discussions between the agency and vendors. The RFP was approximately 60 pages in length with 15 pages of business requirements. Vendors were limited to certain number of pages per section for a total of 100 pages. We had five meetings with the client and started work 4 months ago. We will complete this project before the second project described below starts.
- The second project was for a COTS (commercial-off-the-shelf) system implementation. The RFP was issued in October 2006 and was 700 pages containing 650 requirements. It included a performance bond and partial payment withholding forcing us to be a subcontractor to a larger company. Our proposal was 1200 pages. The procurement was canceled when the only acceptable vendor's bid was several times the project budget. This project has been in development for 5 years and the State is still at least a year or two away from starting.

Perhaps the single, biggest problem in the procurement process is the overuse of consultants to assist the State in the procurement process. Consultants serve a key role in helping the State with functions such as quality assurance and project management. However, consultants are also used to write the FSRs and RFPs, evaluate proposals, and perform project oversight functions such as Independent Verification and Validation (IV&V) and Independent Project Oversight Consultant (IPOC).

The oversight and procurement consultants in California have become their own industry and too much of the State's valuable resources are allocated to these vendors. Recently, we've consistently seen procurements where the budget for these vendors is 25% or more of the total project budget. On a procurement currently active in the State, the procurement and oversight consultants have 43% of the total budget and more funds than the primary vendor to implement the system. For this project, the State has budgeted more money for consultants to watch and manage the work than to execute the work.

The contracts for procurement consultants and oversight vendors are time and material (T&M) contracts with a built-in incentive to lengthen the procurement process and increase their revenues. This can lead to over-specifying a solution and significantly

increasing the costs. A COTS implementation should not have 650 requirements as happened in the above example. When a bidder sees four procurement consultants attend the bidder's meeting and 650 requirements in the RFP, their costs increase dramatically knowing the extra overhead required to work with that many reviewers.

Often, the procurement consultants and oversight vendors have little actual IT project experience other than their oversight roles. This results in poorly designed solutions during the FSR and RFP development phases which increase costs unnecessarily. In addition, procurement consultants do not attend the same State training as the professional State procurement officials. This can lead to wildly inconsistent approaches on different procurements based on an individual's preferences and not State standards.

For example, last year we included Oracle software in one of our bids. The RFP included a requirement for all participants (prime and subcontractors over 10%) to submit financial information in a variety of formats including an Altman Z Score (a bankruptcy predictor). The procurement consultant rejected Oracle's financials saying their annual reports and SEC filings were insufficient to determine financial health forcing us to purchase the software through a value-added reseller (VAR) at an increased cost. At the time of the procurement, Oracle had several billion dollars of available cash and today remains one of the largest companies in the world; yet the financial documents were deemed insufficient to sell the State \$200,000 worth of software.

On a procurement for a business intelligence (BI) application, the RFP included very specific and excessive qualifications for the prime vendor. Even though the application was of moderate size, the prime was required to have completed multiple projects with a minimum number of records and transactions that far exceeded the proposed system. In fact, the qualifications were so excessive that research indicated that there wasn't a single system in operation globally that met these requirements.

Finally, there is a strong need to make procurement a much more collaborative process. Over-specifying, the lack of communication and openness, and being too risk adverse handcuffs the process and leads to non-optimal solutions. Scoring models for selection are geared toward the lowest bidder, often with the highest risk. We need a method to reward vendors who consistently deliver project successes. On the vendor side, we are far too quick to challenge and protest selections. We need to reserve the protest process for only the most egregious events and not as a normal way to do business.

Recommendations

We need to significantly accelerate the FSR, RFP, and procurement process to reduce overall costs and better serve the citizens of California. The process should be a collaborative, business partner approach. Requirements should not be carved in stone and fully defined early in the process. It should be a phased approach with iterative refinement. We need to recognize that it is impossible to accurately forecast everything up front.

RFPs should *describe* business requirements and not *prescribe* technical solutions. Over-specifying severely limits the use of COTS solutions and unnecessarily increases costs. Including too many requirements lengthens the procurement process and restricts bidders.

Solutions-based procurements should be used for projects under \$5 million also. If this is not feasible, the limits for MSA contracts should be reviewed to determine if they should be raised further to accommodate projects under \$5 million. Similar to solutions-based procurements, the process should include a conceptual design phase where the vendors and State could informally discuss alternatives.

The State should continue to encourage and enforce the use of standard procurement vehicles such as the IT MSA and strategic sourcing.

Federal agencies, especially the Department of Defense, routinely limit proposals to a maximum number of pages per section. The State should consider limiting proposal length to help shorten the procurement process and reduce overall costs.

The use of procurement consultants and oversight vendors has grown too large and consumes too much of the State's budget. The State should investigate limiting the use of these vendors to a certain percent of the overall project budget or prime vendor budget.

The current IV&V and IPOC reports are of limited assistance in ensuring the success of a project. The State should investigate different standard reports including earned value analysis, performance metrics, etc. One of our clients was a large chemical company who uses a single page report to show project status using the standard red, yellow, green for each metric.

The State should investigate using something similar to the Federal government Online Representations and Certifications Application (ORCA). ORCA contains the corporate financials, certifications, etc. that are routinely requested during bids. When submitting a bid for the Federal government, vendors simply sign a single page form that states their ORCA information is current.

This concludes my testimony and on behalf of the Natoma Technologies, I wish to express my thanks to the Commission for participating today.

Thank you.

Cal-SOLQ

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The Cal-SOLQ application received rave reviews from DHCS business users and is providing significant improvements in the validation of MediCal applicant's information and determination of MediCal and MediCare eligibility. The Natoma developed Cal-SOLQ solution has received special recognition by the California State CIO's Office and national and State awards including:

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- "Best of California IT Projects", Cal-SOLQ system by the Government Technology Center, 2008

Schedule Excellence. In collaboration with DHCS Information Technology and Program staff, the Natoma team designed, built, tested, and implemented the Cal-SOLQ/MMA system to production within 120 working days. Through a strong team approach using an agile, best practices SOA project management methodology including iterative prototyping, the system was delivered under budget and 90 days earlier than originally scheduled.

The managers at the Federal Social Security Administration (SSA) informed us that states usually require a 9 to 12 month schedule to achieve SSA certification to move to an SOLQ solution to production. The DHCS staff working in collaboration with DTS staff and the Natoma technical team was able to obtain SSA approval within a 3 month period, thus setting a new schedule record in design, build, testing, and production implementation of a real-time SOLQ solution certified by SSA relative to all states.

Technical Excellence. Natoma architects and developers collaborated with DHCS, DTS, and the State CIO's office to architect a web services solution based on SOA best practices. Exploiting the CICS 3.1 transaction server capabilities of the Medi-Cal Enrollment Database System (MEDS) legacy mainframe application, and using DHCS's existing Microsoft .NET 2.0 infrastructure, the team developed several social security query, verification, and audit web services that communicate via SOAP over HTTPS. Authorized State government workers can access these web services through a standard web browser or through the green screens on the MEDS mainframe system. This request immediately generates a query to the Federal Social Security Administration database and DHCS users receive a response real-time.

The orchestration of web services within the DTS legacy mainframe environment and DHCS's newer .NET environment was key to rapidly developing the Cal-SOLQ/MMA application and providing flexible mainframe or web browser access for the State's authorized business staff.

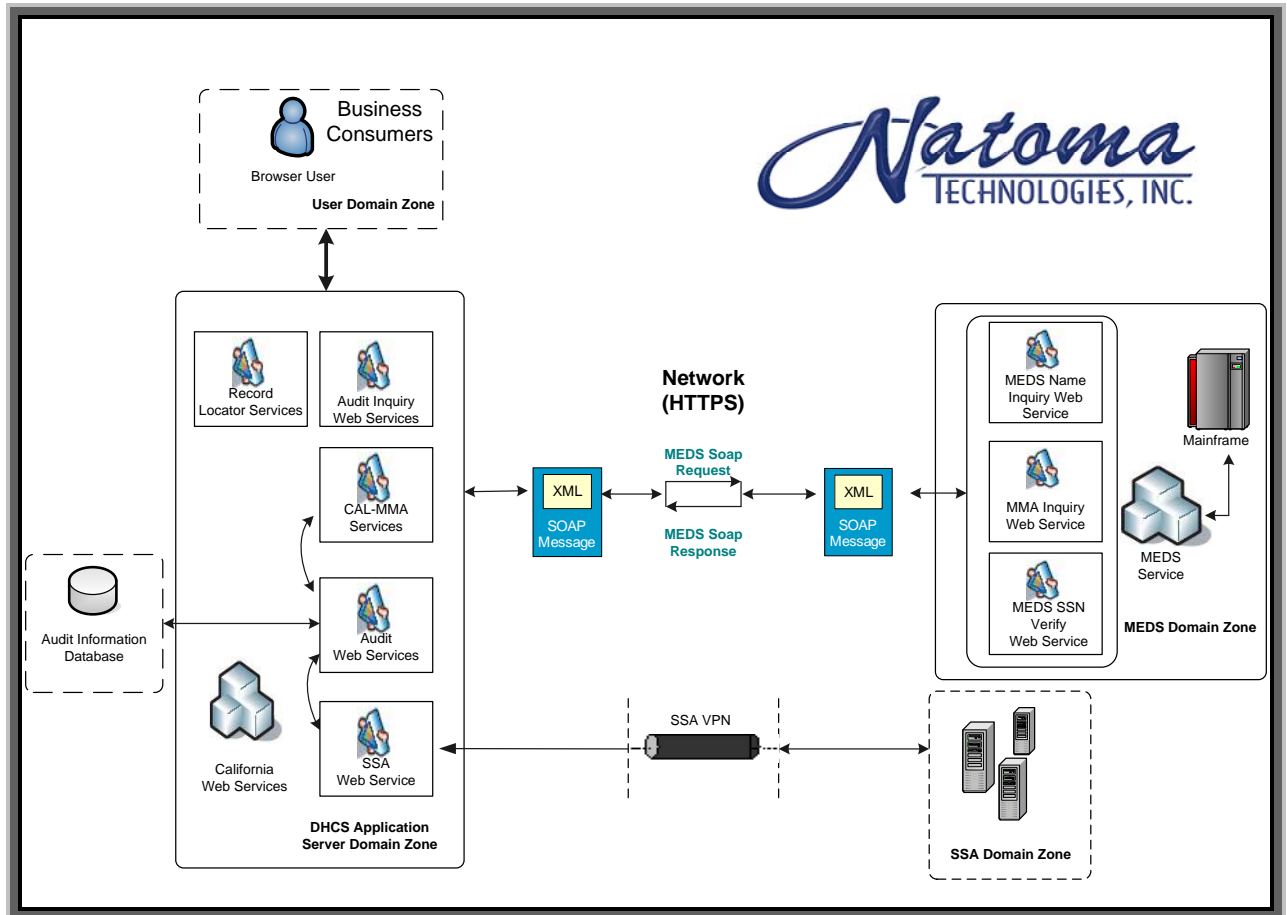
Benefits to our Programs. Cal-SOLQ/MMA is a suite of Web Services that allows secure, traceable, real time requests/responses of information from the Federal Social Security Administration (SSA) and State data sources. Using SOA principles, Cal-SOLQ/MMA integrates the client-server and mainframe environments. Seamless to users, Cal-SOLQ/MMA aggregates data from many disparate sources- state, federal, and private payer health care data and presents an elegant, unified view.

State analysts now see data in *real time* – reducing a multi-week wait to a few seconds. This results in a significant reduction in time, effort, and cost to process eligibility and beneficiary information. Analysts can instantly verify SSA changes to beneficiary records.

Cal-SOLQ/MMA also helped create a framework at DHCS for building SOA applications that can effectively and securely connect to multiple data sources, ranging from mainframe legacy systems to data presented using Web Services. New functionality can be rapidly added to this framework.

Collaboration Excellence. Since this was the first SOA enterprise project for DHCS (and the State of California), Natoma helped the State understand what is involved in an SOA project – different paradigms and technologies. The Natoma team had to work with a large number of stakeholders to drive this project to completion. These stakeholders included DHCS business unit staff; DHCS mainframe programmers, web services administrators, database administrators, the information security officer, and network support staff; California Department of Technology services mainframe operators and web administrators; business and technical staff from the Social Security Administration. The Natoma project team was able to effectively coordinate their development efforts with all groups, find ways to reconcile conflicting demands from these stakeholders, and build a system that meets requirements, and is designed to be extensible enough to continue to grow with the Departments business needs.

Cal-SOLQ Web Services Overview



System Technical Benefits

- **Real-time access** to Federal SSA data for authorized DHCS users
- All communication across systems uses web services
- Leverages legacy system code from the MEDS Mainframe using CICS and .NET web services
- All communication is encrypted, detailed audit trail of all user queries
- All web services are reusable for future California statewide applications
- Decreases time to develop new functions and interfaces at a statewide enterprise level

- Enables a highly agile SOA technical environment with interoperable and reusable web services aligned with the Federal MITA vision, and California Enterprise Architecture Program (CEAP) goals